

Title (en)  
DRILL

Title (de)  
BOHRER

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FORET

Publication  
**EP 2754518 A4 20150422 (EN)**

Application  
**EP 11872005 A 20110906**

Priority  
JP 2011070296 W 20110906

Abstract (en)  
[origin: EP2754518A1] Provided is a drill that achieves a shape of chips curled without a needle-like projection and accordingly shortened in overall length and that more smoothly discharges the chips to further improve a tool life. Since a cross section orthogonal to an axial center C of a drill 10 has a first convex curve CL1 corresponding to a convexly-curved cutting edge portion 12a and a first concave curve CL2 corresponding to a concavely-curved cutting edge portion 12b intersecting with each other at an intersection A, chips generated from a cutting edge 12 are curled and formed into a shape having no needle-like projection and accordingly relatively shortened in overall length and are smoothly discharged with enhanced discharge property and, therefore, the tool life of the drill 10 is further improved.

IPC 8 full level  
**B23B 51/00** (2006.01)

CPC (source: CN EP US)  
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**B23B 2251/04** (2013.01 - CN EP US); **B23B 2251/08** (2013.01 - US); **B23B 2251/12** (2013.01 - US); **B23B 2251/125** (2013.01 - CN EP US);  
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**Y10T 408/909** (2015.01 - EP US); **Y10T 408/9095** (2015.01 - EP US); **Y10T 408/9097** (2015.01 - EP US)

Citation (search report)  
• [XDI] JP 2003025125 A 20030129 - MITSUBISHI MATERIALS CORP  
• [A] US 2011170974 A1 20110714 - MASUDA NORIHIRO [JP]  
• [A] FR 2793176 A1 20001110 - TIVOLY S A [FR]  
• See references of WO 2013035166A1

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CZ310057B6; EP2857131A4; EP3342513A1; US9713846B2

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